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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/751,509	01/06/2004	Andrew F. Knight		3323

42067 7590 09/21/2005

ANDREW F. KNIGHT
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EXAMINER

ZEC, FILIP

ART UNIT	PAPER NUMBER
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3744

DATE MAILED: 09/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/751,509

Applicant(s)

KNIGHT, ANDREW F.

Examiner

Filip Zec

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-19 and 22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-10 is/are allowed.
- 6) ☒ Claim(s) 1,3-7,11-19 and 22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Applicant's arguments and amendment with respect to claims 1, 3-19 and 22 have been considered but are moot in view of the new ground(s) of rejection.
2. Claim 21 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the telephonic interview with A. Knight on 9/8/2005.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3-7, 11, 14, 16-19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,349,560 to Maier-Laxhuber et al. in view of U.S. Patent 4,766,732 to Rubin. In FIG. 2, Maier-Laxhuber discloses applicant's basic inventive concept, a rechargeable cooling device (1) and a method for using said device, comprising a first reservoir (evaporator, 8) configured to contain a liquid (15), a second reservoir (9) configured to contain a vapor of said liquid (col 4, line 47), a heat exchanger (surface of the evaporator 8) connected to at least one of said first and second reservoirs; and a reusable valve (13), wherein said first reservoir is in fluid connection with said second reservoir via said reusable valve, and wherein

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the cooling device is configured so that when said first reservoir contains said liquid at a first pressure and said second reservoir contains said vapor at a second pressure lower than said first pressure, said heat exchanger may be made to absorb heat at least in part by opening said reusable valve and allowing said liquid to vaporize as said first and second pressures equalize (col 2, lines 6-32) and when pressures in said first and second reservoirs are approximately equal at a first temperature, and after said heat exchanger has been made to absorb heat, said cooling device may be recharged for a subsequent use at least in part by cooling said cooling device to a second temperature lower than said first temperature (col 4, lines 50-55), wherein said second reservoir further comprises an absorbent material (14) chosen to absorb said vapor, said cooling device further comprising a third reservoir (3, see FIG. 3) connected to said heat exchanger and configured to hold a substance (4) desired to be cooled, said device further comprising a refrigerator comprising a second heat exchanger (col 3, lines 63-65) connected to at least one of said first and second reservoirs, wherein said refrigerator is removably connected to said cooling device and wherein said valve is adjustable so that a flow rate of vapor passing through said valve may be adjusted (col 4, lines 43-50), substantially as claimed with the exception of stating that the refrigerant used has a vapor pressure at room temperature greater than 1 atm., that the temperature of the liquid refrigerant is at room temperature prior to vaporizing, that said rechargeable cooling device is an insulated mug, wherein said third reservoir is shaped to contain no more than about 48 fluid ounces of a beverage, wherein said rechargeable cooling device is an insulated cooler having a storage volume in excess of one cubic foot, wherein said cooling volume is shaped to hold and cool at least one and not more than four 12-ounce beverage cans and wherein said second reservoir has a volume at least ten times greater than a volume of said

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first reservoir. Rubin shows a liquid refrigerant used in a container having a vapor pressure at room temperature greater than 1 atm (carbon dioxide, col 1, lines 62-68 and col 2, lines 1-6) to be old in the refrigeration art. The applicant should note that the change in size for the intended use is a design consideration within the skill of the art, In re Leshin, 227 F.2d 197, 125 USPQ 416 (CCPA 1960). Also, Maier-Laxhuber teaches how “*no special demands are made on the size and configuration of the containers. Thus, all containers common at present (for example, vats, containers, cans, open containers, foil sacks, multilayer packaging, plastic containers, canisters, hobbocks, bottles, jugs, and so forth) which are suitable for flowable filling materials can be used, as long as the sorption apparatus can be coupled for proper operation*” (col 4, lines 6-13). Finally, since vapor takes up a lot less volume than liquid it would have been obvious to have the liquid reservoir to be much smaller than the vapor reservoir. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made from the teaching of Rubin to modify the system of Maier-Laxhuber, by having a liquid refrigerant used in a container having a vapor pressure at room temperature greater than 1 atm in order to increase the storage size of the refrigerant (col 1, lines 30-45) and improving its efficiency and by sizing the beverage container in order to allow for any type of beverage container to be cooled and thus diversify the product.

5. Claims 12, 13 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,349,560 to Maier-Laxhuber et al. in view of U.S. Patent 4,766,732 to Rubin and U.S. Patent Application Publication 2005/0061006 to Bonaquist et al. In FIG. 2, Maier-Laxhuber discloses applicant's basic inventive concept, a rechargeable cooling device (1), comprising a first reservoir (evaporator, 8) configured to contain a liquid (15), a second reservoir (9)

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configured to contain a vapor of said liquid (col 4, line 47), a heat exchanger (surface of the evaporator 8) connected to at least one of said first and second reservoirs; and a reusable valve (13), wherein said first reservoir is in fluid connection with said second reservoir via said reusable valve, and wherein the cooling device is configured so that when said first reservoir contains said liquid at a first pressure and said second reservoir contains said vapor at a second pressure lower than said first pressure, said heat exchanger may be made to absorb heat at least in part by opening said reusable valve and allowing said liquid to vaporize as said first and second pressures equalize (col 2, lines 6-32) and when pressures in said first and second reservoirs are approximately equal at a first temperature, and after said heat exchanger has been made to absorb heat, said cooling device may be recharged for a subsequent use at least in part by cooling said cooling device to a second temperature lower than said first temperature (col 4, lines 50-55), wherein said second reservoir further comprises an absorbent material (14) chosen to absorb said vapor, said cooling device further comprising a third reservoir (3, see FIG. 3) connected to said heat exchanger and configured to hold a substance (4) desired to be cooled, substantially as claimed with the exception of stating that said cooling device further comprising a refrigerator comprising a second heat exchanger connected to at least one of said first and second reservoirs, wherein said refrigerator is removably connected to said cooling device.

Rubin teaches the use of a carbon dioxide as a refrigerant (abstract). Bonaquist shows the use of a second heat exchanger (25, FIG. 3) connected to at least one of said first and second reservoirs (27 and 29), to be old in the refrigeration art. Also, per claim 13, the applicant is reminded that if it were considered desirable for any reason to use a separate structure instead of one piece construction disclosed in Bonaquist, it would be merely a matter of obvious engineering choice,

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In re Dulberg, 289 F.2d 522, 523, 129 USPQ 348, 349 (CCPA 1961). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made from the teaching of Rubin and Bonaquist to modify the system of Maier-Laxhuber, by using carbon dioxide as a refrigerant and then using a second heat exchanger to cool the refrigerant, recharge it for further use and remove the refrigerant from the storage area (Bonaquist, [0027]).

6. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,349,560 to Maier-Laxhuber et al. in view of U.S. Patent 4,766,732 to Rubin, as applied to claim 1 above, and further in view of U.S. Patent 4,976,112 to Roberts et al. Maier-Laxhuber discloses applicant's basic inventive concept, a rechargeable cooling device, substantially as claimed with the exception of stating the use of a pressure relief valve connected to at least one of said first and second reservoirs. Roberts shows the use of a pressure relief valve (top of 70, FIG. 1) to be old in the beverage refrigeration art. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made from the teaching of Roberts to modify the system of Maier-Laxhuber, by having a pressure relief valve in connection with one the refrigerant reservoirs in order to prevent accidental pressure build up and a possible accident (col 3, lines 15-16).

Allowable Subject Matter

7. Claims 8-10 are allowed.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Filip Zec whose telephone number is (571) 272-4815. The examiner can normally be reached on Monday through Friday.

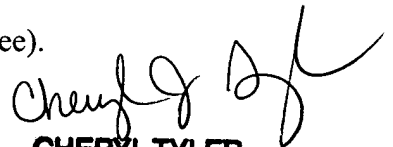
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Filip Zec

Examiner

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CHERYL TYLER

SUPERVISORY PATENT EXAMINER

FZ